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Utility Patent Application For:

CONVENIENT SOLID PRODUCT DISPENSING PACKAGE

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CONVENIENT SOLID PRODUCT DISPENSING PACKAGE

FIELD OF THE INVENTION

[0001] This invention relates to product dispensing packages which may conveniently be stored in a vehicle.

CROSS REFERENCE TO RELATED DOCUMENTS

[0002] This application is continuation-in-part of utility patent application serial no. 10/675,318 filed September 29, 2003 of the same title (now abandoned).

BACKGROUND OF THE INVENTION

[0003] Many vehicles have cup holders in which drinks may be conveniently held. Candy or other small pieces of food, however, are typically sold in flexible paper or plastic bags which are difficult to store in a vehicle. Once the packages are opened, the foodstuff is often spilled onto the car seats and can become sticky, or otherwise soil the interior of the vehicle.

[0004] Dispensing containers are known, and prior patents relating to such dispensers are disclosed in the following patents:

[0005] D. T. Hengami U.S. Pat. No. 6,435,402 granted Aug. 20, 2002

[0006] D. T. Hengami U.S. Pat. No. 6,360,942 granted Mar. 26, 2002

[0007] D. T. Hengami U.S. Pat. No. 6,273,332 granted Aug. 14, 2001

[0008] D. T. Hengami U.S. Pat. No. 6,116,499 granted Sep. 12, 2000

[0009] C. G. von Stillfried U.S. Pat. No. 5,505,373 granted Apr. 9, 1996.

[0010] These containers are generally rectangular, however, with a size and configuration such that there is normally no convenient place to store them in a vehicle.

SUMMARY OF THE INVENTION

[0011] Accordingly, one important object of the invention is to provide a dispensing package which may be conveniently stored in a vehicle.

[0012] In accordance with one specific illustrative embodiment of the invention a hexagonal package or box for small solid products is provided with a slide which selectively opens and closes an opening in the package; and the cross-sectional extent of the package is about 2 to 3 inches or about five to eight centimeters, so that it readily fits into drink holders normally found in most vehicles.

[0013] In a preferred embodiment of the invention, the hexagonal container or box may have a product-dispensing opening in the top, and a slide integrally formed from the box material may be selectively moved to open or close the opening. The opening is preferably near one side of the top of the hexagonal box, and the slide extends along the inner surface of the top of the box and is secured to an actuating panel extending down the outside of the box, and overlying one side of the hexagonal box. The actuating panel is hingedly secured to the slide, and is adhered to a side panel of the box at an area spaced down from the top of the box to facilitate movement of the slide to open or close the dispensing opening. The actuating panel may also serve as a handle for removing the box from the vehicle drink holding receptacle, and for passing the box to others, for example.

[0014] Additional aspects of the dispenser box may include (1) stops to limit movement of the slide, (2) a gripping arrangement on the slide actuator to facilitate opening and (3) top panels above and below the slide to guide the slide as it is opened and closed. The actuating panel and stops are formed and fit together in such a way to offer precise operation as described herein.

[0015] Incidentally, typical small products which may be dispensed from the box would be candy, chewing gum and medical pills, for examples.

[0016] Instead of a hexagonal configuration, the box may be in other configurations such as 5, 7 or 8-sided boxes, or boxes having equilateral polygonal configuration, scaled to fit into a vehicle cup holder.

[0017] While the dispensing opening is preferably in the top of the box, it may also be located in one side of the box, normally near the top of the box.

[0018] One advantage of the design is the ease of manufacture, in that the final box configuration can be realized by successively folding the extending tabs in an appropriate order, without requiring a separate manufacturing step of inserting the slider into the box assembly, thereby increasing production speed especially in mass production.

[0019] The package of the present invention is most convenient for mothers with small children, as when the kids leave the vehicle the box may be placed in the cup holder avoiding accidents later and making a mess on the vehicle seats. Other objects, features and advantages will become apparent from a consideration of the following detailed description, and from the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0020] FIG. 1 is a perspective view of a solid product dispensing package or box illustrating the principles of the invention, mounted in one of the drink holders in a vehicle;

[0021] FIG. 2 is a top view of the box of FIG. 1;

[0022] FIG. 3 is a diagrammatic showing of a blank from which the box of FIGS. 1 and 2 is formed, shown from the inside of the box;

[0023] FIG. 4 is a perspective view of the box of FIGS. 1 and 2; and

[0024] FIG. 5 is a perspective view of an alternative embodiment; and

[0025] FIG. 6 shows an alternative blank for a top dispensing box as shown in FIGS. 2 and 3.

[0026] FIG. 7 shows a second alternative blank for the top dispensing box shown above.

[0027] FIG. 8 is a perspective view showing the first steps in forming the box of the second-alternative blank.

[0028] FIG. 9 shows the second steps in forming this box.

[0029] FIG. 10 shows the third steps in forming this box.

[0030] FIG. 11 shows this box flattened for storage until filling and completing of the box.

[0031] FIG. 12 shows the first steps in closing the top of the box.

[0032] FIG. 13 shows the second steps in closing the top of the box.

[0033] FIG. 14 shows the box with the top closed.

[0034] FIG. 15 shows the loading of candy or other small pieces of food into the bottom of the box.

[0035] FIG. 16 shows the steps in closing the bottom of the box.

[0036] Finally, FIG. 17 shows the completed box with the bottom closed.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0037] While the specification describes particular embodiments of the present invention, those of ordinary skill can devise variations of the present invention without departing from the inventive concept.

[0038] Referring more particularly to FIG. 1 of the drawings, a product container or box 12 is shown mounted in a drink holder recess 14 of an automobile. Also shown in FIG. 1 are the gearshift lever 16 and a hand brake actuating lever 18.

[0039] As shown to advantage in FIGS. 2 and 4, the container or box 12 has a product-

dispensing opening 20 located in the top of the box near one of the sides 22 of the hexagonal box. In addition, a slide 24 is mounted to selectively open and close the product dispensing opening 20.

[0040] The slide 24 is hingedly coupled to an actuation panel 26 which overlies one of the sides 28 of the hexagonal box 12. The actuator panel 26 has a lower portion 26' firmly adhered to side 28 of the box, so that the upper portion of actuator panel 26 may be pivoted in and out to move slide 24 to close and open the dispenser opening 20.

[0041] Also visible in FIGS. 2 and 3 are the cut-away zone 42 in the top and the cut 44 at the junction between slide 24 and slide actuator 26, which facilitate opening of the product container or box. Thus, using a fingernail, for example, the cut 44 may be engaged, and the slider 24 pulled back.

[0042] The inner end 24' of the slider 24 is slightly wider than the outer portion of slider, and has shoulders 38 which engage inwardly extending portions of the top or tabs secured to the top to form stops. These stops prevent the slider 24 from being fully pulled out of the box or container.

[0043] FIG. 3 is a view of a blank from which the box or container 12 is formed; and the view is taken from the side of the blank which will subsequently be the inside of the box. To correlate the construction of the box of FIGS. 1, 2 and 4 with the blank of FIG. 3, note that the same reference numerals are used in FIG. 3 as are shown in FIGS. 2 and 4. Two

sides 52 and 54, which are not fully visible in FIGS. 2 and 4, are shown in FIG. 3. The inner top 34' and opening 20' are also shown in FIG. 3; and inner top 34' is adhered in place by flaps 56 and 58. The outer top 34 is adhered to the sides of the box by flaps 60 and 62. The slider 24 is therefore guided between the two top layers 34 and 34' as it shifts between the open and the closed positions.

[0044] The bottom 64 of the box 12 is adhesively secured to the sidewalls by the flaps 66 on the bottom 64 and by the flaps 68 at the lower ends of the sidewalls. The flap 70 is adhesively bonded to sidewall 54 to close the sidewall configuration of the box 12.

[0045] Incidentally, with reference to FIG. 3, the darker or bolder line 71 extending part of the way between side wall 54 and actuation panel 26, represents a cut, while the other lines shown in FIG. 3 represent fold lines.

[0046] FIG. 5 is a diagrammatic showing of an alternative hexagonal box or package 82 with an opening 84 on the sidewall thereof. The slider 86 is hingedly secured to the actuator 88, which in turn is adhesively secured along base strip area 90 to the top 92 of the box 82. The slider 86 may have an enlarged end, with shoulders 94 engaging the top 92 to provide a retraction stop.

[0047] FIG. 6 shows a blank 102 from which the hexagonal box of FIGS. 2 and 3 may be formed. The blank 102 of FIG. 6 is similar to the blank of FIG. 3, but the blank 102 of FIG. 6 has been modified to avoid the need for providing a second opening as shown at

reference numeral 20' in FIG. 3.

[0048] More specifically, the sides 104, the bottom 106, and the slider 108 are substantially the same as shown and discussed above for the corresponding parts of FIG. 3. The top 110 is also substantially the same, but may have two additional box securing flaps 112, while the similar function flaps 56 and 58 have been deleted.

[0049] However, instead of the apertured inner top closure 34' of FIG. 3, the embodiment 102 of FIG. 6 has an "unapertured" flap 114 and optional securing flap 116. The flap 114 is folded in before the slider 108 followed by the top 110 and the flap 114 provides an inner guide for the slider 108. With the foregoing sequence of tab folding, the manufacturing steps are simplified, and the slider is automatically located in its proper final position. Also, the embodiment of FIG. 6 has the advantage of simplicity, as compared with the blank of FIG. 3, and avoids the need to punch out the second opening 20' as shown in FIG. 3.

[0050] Fig. 7-17 show an alternate embodiment blank 118 and steps to erect and fill such a hexagonal box similar in some respects to the box 12 described above but offering various improvements. The overall configuration of the box was changed to reduce material costs, strengthen the box, and make it easier to manufacture and operate better.

[0051] Fig. 7 shows the inside (non-print) side of the blank 118 of the hexagonal box. In comparison to the above-described boxes, the inner top 34' (Fig. 3) or top flap 114 (Fig.

6) were largely eliminated, and the side flap 70 reduced in size 50% resulting in material savings. Moreover, a newly-shaped slider 120 has angled stop portions 122 that operate more smoothly and without catching on the sides of the box as explained below. Note the small steps 123, 143 that engage one another. The opening 124 is oval rather than having any sharp corners. Except for the outer portions the blank 118 is symmetrical simplifying manufacture.

[0052] Figs. 8-11 show the initial steps in erecting the box. The blank 118 is folded between sidewalls 132 and 134 and between sidewalls 138 and 140 (Fig. 8), and then again between sidewalls 138 and 140 and between 126/128 and 132 (Fig. 9). The side flap 144 rectangular-shaped glue area 146 is adhered to the inside side panel 132, while the inside actuation panel 128 glue area 148 is adhered to the outside sidewall 142 (Fog. 10). Then the box can be pressed flat (Fig. 11) and stored until ready to be filled.

[0053] Figs. 12-17 show the filling process and completion of the final formed package. First the top of the box is closed by folding the four (4) flaps 150, 152, 154 and 156 (Fig. 12). Next the slider 120 is folded and then the top 160 followed by the two flaps 162, 164 (Fig. 13) which completes the top portion of the box (Fig. 14). Then the box is inverted and the contents added through the open bottom and the flaps 166, 168 folded (Fig. 15), and the bottom 170 folded including the three (3) flaps 172, 174 and 176 completing the forming of the package.

[0054] In closing it is noted that preferred illustrative embodiments of the invention have

been shown and described in detail. Various alternatives and modifications may be employed without departing from the spirit and scope of the invention, however. Thus, by way of example and not of limitation, the product boxes may be made using 5 or 7 sides or other similar polygonal configurations, preferably equilateral and of sizes which are conveniently storable in the drink holders for vehicles. One arrangement for securing the boxes together has been shown, but other equivalent bonding arrangements may not be used, with tabs located in different positions to secure the box closed. The boxes may be formed of cardboard, stiff waxed paper, or sheets of plastic, for examples, with the box materials matched to the intended contents. Accordingly, the invention is not limited to the specific configurations described in detail hereinabove.